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ON THE GENUS *PSILORHINUS* Ruppell.

BY WITMER STONE.

While engaged in cataloguing the Corvidae in the collection of the Academy of Natural Sciences of Philadelphia, I found several interesting specimens of *Psilorhinus*, some of which did not seem to agree exactly with any of the described species, while others seemed to cast doubt upon the validity of *P. cyanogenys* of Sharpe. This led to a more minute study of the genus which was made possible by the kindness of Mr. Robert Ridgway, curator of birds in the U. S. National Museum, who has loaned me the entire series of *Psilorhinus* contained in that institution.

There have been four species of *Psilorhinus* described by authors :
P. morio (Wagl.). (*Pica morio* Wagl. Isis 1829, p. 751).

P. Mexicanus Rüpp. Mus. Senckenb. 1837, p. 189. The type of the genus.

P. cyanogenys Sharpe. Cat. Birds in Brit. Mus. iii, p. 140, 1877.

P. vociferus (Cabot). (*Corvus vociferus* Cabot. Bost. Jour. Nat. Hist. IV, p. 464, 1844).

This last was referred as a synonym of *Corvus corax* by G. R. Gray in his Hand List and this error has been followed by many other authors. How the mistake originated it is hard to see, as the description is perfectly clear. The discovery of Cabot's type in the Academy's collection led me to the correct identification of the species and I afterwards noticed that Mr. Ridgway had also discovered the true character of "*Corvus vociferus*" (Manual. of N. A. Birds, p. 361, foot note).

These four species fall naturally into two groups, *P. morio* having the tail entirely brown while the others have all the feathers but the central pair broadly tipped with white.

After a careful study of the series of *P. Mexicanus* and *cyanogenys* now before me, I have come to the conclusion that the two are not specifically distinct.

The character upon which Sharpe based his *P. cyanogenys* consisted in the presence of a bluish-gray patch on the side of the head. The great variation both in the extent and intensity of this patch in the specimens in the Academy's collection led me to doubt its value as a specific character especially as I found the same gray patch conspicuously present in some specimens of *P. morio*, while in others

there was more or less tendency to a lighter coloration on the malar region; in fact, in nearly all the specimens of this genus that I have seen the feathers of the malar region have a different luster from those of the side of the head; so that this character is, to say the least, very variable. From the material at hand it is impossible to make the presence of the strongly marked malar patch correspond with any geographical range or with any variation in age or plumage, and it must, therefore, be considered merely as an individual variation.

As regards *P. vociferus*, although the presence of the gray malar patch will not serve to keep it separate any more than in the case of *P. cyanogenys*, nevertheless it possesses other characters which may prove of specific or subspecific value, by which it may be distinguished from all the specimens of *P. Mexicanus* seen by me.

I refer to the size and shape of the bill and the coloration of the tail. In all the Central American specimens the bill is nearly uniform in shape though varying somewhat in absolute dimensions, while in the type of *P. vociferus* (from Yucatan) it is shorter, and deeper in proportion to its length. A specimen of "*P. cyanogenys*," however, from Mirador, has a bill of nearly the same shape though much larger.

In regard to the tail, the white tips in *P. vociferus* are much broader than in *P. Mexicanus*, measuring on the outer feathers fully two inches while in only one other specimen do they reach as much as an inch and a half and average only an inch and a quarter. Moreover, in *P. vociferus* there is a subterminal white band on the central tail feathers which are uniform brown, in all the other specimens this band is somewhat obscured in the middle of the feathers though the quill is distinctly white where it crosses.

In consideration of these differences and the lack of other specimens from Yucatan, I think we are hardly justified in uniting *P. vociferus* with *P. Mexicanus*. A more complete series of specimens may show these characters to be merely individual, as in the case of the gray malar patch, and then we can unite all birds with white tips to the rectrices under *P. Mexicanus*.

There is still another point in connection with the birds of this group, namely the coloration of the under surface. One of the Costa Rica specimens shows a sharp line of division between the brown of the neck and breast and the white of the under parts, while in other specimens the colors shade gradually into one another.

This same difference occurs in specimens of *P. morio*. The extent of the dark color also varies considerably in different specimens, two birds from Nicaragua being much darker below than any others in the series.

As regards *P. morio* the series of eleven specimens show considerable individual variation of nearly the same character as occurs in *P. Mexicanus* but nothing, I think, which can be considered of specific value.

As mentioned above one specimen (No. 3093, Phila. Acad. Coll.) shows a distinct blue-gray malar patch and spot above and behind the eye. Some have the black throat and breast separated from the lighter under surface by a sharp line while in others the colors are blended, and the throat is sometimes but little darker than the rest of the under surface.

The color of the under surface also shows great variation. It is generally light grayish-brown but in one specimen (Nat. Mus. Col. No. 4115) from San Diego, Mexico, it is nearly white and in another (Nat. Mus. Coll. No. 42139) from Orizaba, suffused with rufous especially on the under tail coverts. The wings in this specimen are also reddish-brown.

To sum up my observations on the genus, it must, I think, be considered as a group in which great individual variation occurs, variation which may eventually produce several well marked forms. At present, however, I think we can recognize but two species *P. morio* (Wagl.) extending from Tehuantepec north to the Rio Grande valley and *P. Mexicanus* Rüpp. from southern Mexico to Costa Rica with the possibility of another distinct species or race in the peninsula of Yucatan. The gray malar patch must be regarded as a variable character occurring in individuals of each species.

Below I give the measurements (in inches) of some of the specimens especially referred to above:

| | Depth of bill through nostril. | Length of culmen. | Wing. |
|--|-----------------------------------|----------------------|-------|
| Type of <i>P. vociferus</i> , Yucatan, No. 3096, Acad. Coll. | ·56 | 1·33 | 7·35 |
| " <i>P. cyanogenys</i> ," Mirador, Mex. No. 23917, Nat. Mus. Coll. | ·68 | 1·59 | 8·37 |
| <i>P. Mexicanus</i> , No. 3094, Acad. Coll. | ·62 | 1·61 | 8·12 |
| <i>P. morio</i> with gray cheek, No. 3093, Acad. Coll. | ·62 | 1·54 | 8·25 |
| <i>P. morio</i> , Orizaba, Mex., No. 42139, Nat. Mus. Coll. | ·64 | 1·00 | 7·75 |